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Hatching of Nematodirus Larvae

L. P. Smith

Counts of larval hatching were made available by R. J. Thomas of Newcastle University for experimental and field sites near Cockle Park.

To obtain a single date for the hatching, an attempt was made by interpolation to identify the day on which 10 per cent of the total count was reached.

This was compared with the mean Cockle Park 1 ft earth temperatures for the month of March. The correlation was high (c.0.86) and the formula

No. of days after March 31 = 186 - 4.5T

where T is the March earth temperature, gave a reasonable fit.

(Note the 1968 and 1969 temperatures are unreliable owing to incomplete observations).

The March earth temperatures were also compared with the mean date of peak counts giving

Number of days after March 31 = 212 - 4.8T

/Results

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Results (For 10% hatch - peak hatch)

Year	Earth Temp	Estimated	Actual	
1955	35.7	April 29 - May 11	April 25 - May 9	(Field)
1956	39.2	April 10 - April 24	April 12 - April 18	(Field)
1957	42.8	March 24 - April 7	(March 22 - April 15	(Experiment)
			(March 22 - April 5	(Field)
			(March 28 - April 2	(Field)
1958	36.2	April 23 - May 8	April 24 - May 13	(Field)
1959	41.5	March 30 - April 13	March 28 - April 20	(Field)
1964	38.8	April 11 - April 26	April 18 - April 23	(Field)
1965	37.8	April 16 - May 1	(April 28 - May 4	(Experiment)
			(April 25 - June 1	(Field)
1966	40.3	April 5 - April 19	(April 9 - April 20	(Experiment)
			(April 6 - April 30	(Field)
1967	41.2	April 1 - April 14	(April 1 - April 27	(Experiment)
			(March 31 - April 27	(Field)
1968	39.5?	April 8 - April 22	(April 2 - April 22	(Experiment)
			(March 22 - April 2	(Field)
			(April 2 - April 24	(Field)
1969	35.0?	April 29 - May 14	(April 21 - April 30	(Experiment)
			(April 20 - May 7	(Field)
			(April 23 - May 7	(Field)

As a first approximation the 1 ft earth temperatures thus give a guide to hatching dates.

The data are now being examined using daily temperatures at shallower depths.

Any comments or suggestions on this paper should be sent to the author.

Meteorological Office
Bracknell
Berkshire RG12 2SZ

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